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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/604,661 | 08/07/2003 | Roberto Teran, Jr. | 81044283 (36190-773) | 1660 |
| 28549 | 7590 | 07/14/2008 | EXAMINER | |
| Dickinson Wright PLLC 38525 Woodward Avenue Suite 2000 Bloomfield Hills, MI 48304 | | | CAVALLARI, DANIEL J | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2836 | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/604,661 | Applicant(s) TERAN, JR. ET AL. | |
| | Examiner DANIEL CAVALLARI | Art Unit 2836 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5,7,8 and 10-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5,7,8 and 10-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments, see Remarks, page 5, filed 4/16/2008, with respect to the 112 first paragraph rejection of claims 1 and 14 have been fully considered and are persuasive. The 112 first paragraph rejection of claims 1 and 14 have been withdrawn.

Applicant's arguments filed 4/16/2008 in regard to the 112 second paragraph rejection of claim 1 and 103 rejection of claims 1 have been fully considered but they are not persuasive.

In regard to the 112, second paragraph rejection of claim 1, the applicant argues "...it is quite clear from Applicant's specification and claims as originally filed, that it refers to engine functions other than the control of air at idle, hence, please review Claim 2". A review of claim 2 yields "wherein the plurality of functions are selected from at least one of a camshaft position function, a crankshaft position function, a remote start function, and a drive-by-wire function." However claim 1 recites "non-idle air valve related functions" and claim 2 recites components/systems which are not associated with the air valve (ie. drive-by wire), as expected. The Examiner further notes that a "camshaft position function" is an "idle air valve related function" since the camshafts are positioned at idle. Furthermore, all other components/systems in claim 2 function during idle and therefore are not a "non-idle air valve related function". The applicant admits that "the Examiner is correct that this term is not ordinarily used in the art" and further fails to provide any definite or adequate definition.

In regard to the “non-hybrid vehicle” lacking from the original disclosure, the applicant provides two points:

1. “The Examiner’s attention is direct to paragraph 7 of Applicant's specification, wherein the use of an electronically controlled throttle is discussed in the context of an engine intake during engine shutdown.” The Examiner notes the applicant has described the well known drive-by-wire system however said system can be incorporated in both conventional and “hybrid” vehicles. Furthermore, this system is even more prevalent in hybrid vehicles.
2. “the mere fact that the term was not included in the specification in the claims [*sic*] as originally filed is not probative, given the prosecution history of this case”. It is unclear to the Examiner what is meant by this argument. The applicant has provided a negative limitation (non-hybrid vehicle) to get around prior art cited in a previous action however this limitation was not taught by the applicant.

In regard the 103 combination of Slopsema et al. (hereinafter referred to as Slopsema) in view of Malik, applicant argues that “the Examiner's reliance upon Slopsema is not well-placed” and goes on to explain that "Slopsema teaches the controlling of the throttle during an engine shutdown". As applicant pointed out, Slopsema teaches “non-idle airflow function” stating “The throttle 18 is preferably adjusted during the period of time such that the flow rate of the intake charge of air is... preferably less than about 30 percent of the idle speed flow...”. 30 percent of the idle speed flow is clearly differentiated from an "idle airflow function". Applicant further goes on to state “Slopsema teaches control of airflow and nothing else...” and that "Malik's

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switch would merely cause the idle airflow to be cut off to the engine..." However the Examiner points out that the operation of the switch is irrelevant. The claim merely recites "a switch coupled to said ignition-enabling device and fuel supply system". The operation of Malik's switch and operation in the vehicle system of Slopsema are not provided for in the claims.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- The specification fails to describe the term "non-idle air valve related function". The term "non-idle air valve related function" is not one ordinarily used in the art. The term "non-idle air valve related function" will be examined as best understood to mean any function other than the systems normal idle air flow position.
- Claim 1 recites the system limited to "non-hybrid" vehicles and an further limited to an "internal combustion engine", neither limitations being provided in the specification or the original claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 10, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Slopsema et al. (US 2002/0179031 A1) and Malik (US 4,364,343).

Slopsema et al. (hereinafter referred to as Slopsema) teaches:

In regard to Claim 1

- A vehicle shutdown system for a non-hybrid vehicle having an internal combustion engine (See Paragraph 10).
- An ignition enabling device (32) with an on and off state which enables ignition of the engine (See Figures 1 and 2 & Paragraph 11).
- An engine controller (20) having a plurality of functions (See Paragraph 13) and being coupled to the ignition enabling device (32) (See Figure 1).
- The engine controller (20) temporarily maintaining operation of at least a portion of the controller functions when the ignition enabling device is switched to the off state, the controller functions comprising a non-idle air valve related function, read on by step (56) of Figure 2 in which the throttle is adjusted to substantially reduce airflow (See Paragraphs 15-17).

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Slopsema fail to teach a switch coupled to the ignition-enabling device and a fuel supply system wherein the controller also disables the fuel supply system upon the ignition enabling device being switched off.

Malik teaches a switch coupled to a controller (110), read on by the manual shutdown switch (139) (See Column 6, lines 54-63) and Figure 1 and a fuel supply system disabled by a controller when the ignition is switched off (See Column 8, Line 67 to Column 9, Line 25 and Column 7, Lines 25-40).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the switch and fuel supply disabling system taught by Malik into the vehicle shutdown system taught by Slopsema. The motivation would have been to reduce fuel consumption and emissions (See Malik, Column 1, Lines 1-25).

Slopsema further teach:

In regard to Claims 2 & 13

- The plurality of functions comprising at least drive-by-wire function (See Paragraph 5 & Figure 1).

In regard to Claims 3

- A single throttle-controlled device, read on by the throttle (Step 56), the engine controller (20) electronically controlling the non-idle air valve throttle controller device at least temporarily preventing shutdown of electronic throttle control (Step 58) when the

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ignition-enabling device (32) is switched off (Step 52) (See Figure 2) in order to reduce noise and vibration (shudder) during engine shutdown (See Paragraphs 3-4).

In regard to Claim 10

- The controller adjusts a position of the throttle controlled device to be more air flow restrictive, without closing off the flow of air, than that of said throttle-controlled device in a default position when the ignition-enabling device (32) is switched off (See Paragraphs 15-17).

Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Slopsema et al. in view of Malik in further view of Page et al. (US 6,499,455).

In regard to Claim 5

Slopsema teaches the engine controller (20) enabling devices when the ignition enabling device is in an ON state and at least temporarily disabling components when the enabling device is in an OFF state (See Figure 2 & Paragraphs 15-18) but fails to explicitly teach a switch coupled to the controller for performing this function.

Page et al. teaches a drive by wire system utilizing a power switch, relay (58), in which to control an air control valve (42) (See Column 2, Lines 61-65). Page et al. further teaches the switch (58) being closed when the ignition switch is closed and temporarily preventing disablement of the switch when the ignition switch is turned off (See Column 3, Lines 12-60).

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the throttle control taught by Page et al. into the vehicle shutdown system taught by Slopsema utilizing a relay and temporarily maintaining the relay in the closed position when the ignition switch is put in the off position. The motivation would have been to provide a control means well known in the art for controlling the air control valve in which Slopsema is silent (See Slopsema, Paragraph 16).

In regard to Claim 7

Slopsema teaches controlling a throttle position (See Paragraph 11) but fails to explicitly teach a throttle position sensor. Page et al. teaches a sensor, read on by circuit (78), that senses the transition of voltage which causes an actuator to adjust or maintain an air control valve at a predetermined open position (See Column 4, Lines 32-50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the throttle actuator position sensor taught by Page et al. into the vehicle shutdown system of Slopsema. The motivation would have been to provide a reliable and accurate control means for the throttle not explicitly taught by Slopsema.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Slopsema et al. in view of Malik in further view of Hawkins (US 2004/0262995A1).

Incorporating all arguments above, Slopsema teaches an “ignition status” signal (32) (See Figure 1) but fails to explicitly teach an ignition start key assembly.

Hawkins teaches an ignition start key assembly (5) attached to a controller (62) used to control the engine of a vehicle (See Paragraphs 23-26).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the ignition start key assembly taught by Hawkins into the vehicle shutdown system of Slopsema. The motivation would have been to secure the ignition from unauthorized use by use of the key and a device well known and utilized in the automobile industry for controlling the ignition of a vehicle.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Slopsema et al. in view of Malik in further view of Fukushima et al. (US 2003/0056753 A1).

Slopsema teaches a throttle adjusted for less than 10 percent of the idle speed flow rate but fails to explicitly teach a throttle angle of 1-2 degrees, approximately 1.5 degrees.

Fukushima et al. (hereinafter referred to as Fukushima) teaches an engine throttle control in which the engine throttle is set to 2 degrees (See Paragraphs 113-115).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to set the throttle position of Slopsema in order to restrict the air flow as desired. The motivation would have been to obtain a desired decrease in air flow as taught by Slopsema and to prevent the valve from sticking (See Fukushima, Paragraph 113).

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Slopsema et al. in view of Malik in further view of Bakholdin et al. (US 2002/0157881)

Incorporating all arguments above of the vehicle shutdown system taught by Slopsema et al., Slopsema fails to teach a safety monitor which monitors the states of the system during shutdown.

Bakholdin et al. teaches a safety monitor as part of CPU (332) (See Paragraph 120) in which during shutdown of the engine, the states are monitored for a fault and the system continues to operate unless the fault exceeds a predetermined severity level.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the safety monitor taught by Bakholdin et al. in which to monitor the shut-down taught by Slopsema in which the operational status of the various devices were monitored, as taught by Bakholdin et al.

The motivation would have been to protect the system and it's occupants by identifying dangerous conditions during shutdown.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Cavallari whose telephone number is 571-272-8541. The examiner can normally be reached on Monday-Friday 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on (571)272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Daniel Cavallari/

July 9, 2008

/Stephen W Jackson/
Primary Examiner, Art Unit 2836